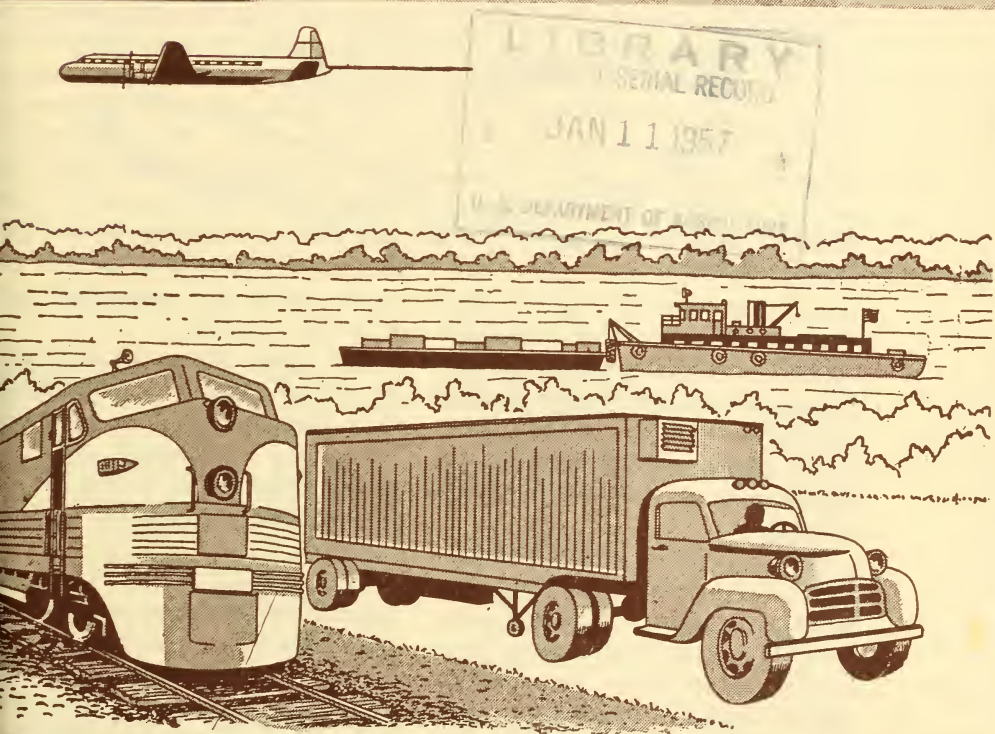


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FOOD TRANSPORTATION and what it costs us



Marketing Research Division
Agricultural Marketing Service
Washington, D. C., November 1956
U. S. DEPARTMENT OF AGRICULTURE

MISCELLANEOUS PUBLICATION NO. 738

The Role of Transportation

In this land of vast distances, of differences in climate, topography, and soil, of crop specialization, and of heavy concentration of people in urban areas, transportation is the physical link connecting the producer with the consumer. By this means, all kinds of food, raised in different parts of the country, are brought together and made available to the housewife in the local market. Transportation makes provision for stopping along the way for processing and storing so that commodities appear in the market in the form in which they are required and at the time they are wanted.

Maine, Idaho, and California have very good conditions for growing potatoes. Although potatoes are commercially grown in 36 States, these three account for nearly half the country's production. Atlanta, Ga., required about 4,300 carlots of potatoes in 1955 and drew on 31 States for its supply. About three-quarters came from growing areas less than 1,000 miles distant. At the same time Atlanta took nearly 500 carlots from Idaho, 2,100 miles away; more than 200

from California, 2,300 miles away; about 150 from Maine, 1,500 miles distant; and even had over 100 carlots shipped in from the State of Washington, over 2,600 miles away.

Florida and California are the chief producers of citrus fruit. Between them, they account for more than 90 percent of domestic production, supplying almost all our domestic needs and exporting considerable quantities.

Wisconsin, Minnesota, and Iowa go in heavily for dairy farming and the production of butter and cheese. Wisconsin, particularly, is known as the cheese center of the Nation, shipping its products all over the country.

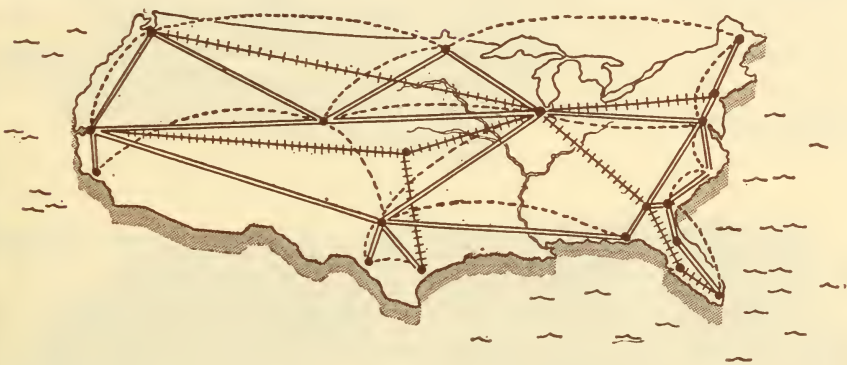
This specialization by regions benefits the producers and the people who buy the resulting products. But no such specialization in farm production would be possible if we did not have dependable transportation or if the transportation cost too much.

The portion of the average food dollar absorbed by transportation in 1955 was about 8 cents, having gone up almost 50 percent in the 10 years since 1945.

The Haulers

Transportation is provided through a network of railroads, highways, waterways, and airlines. The various kinds of transportation firms are all called carriers. The

transportation, the Federal or State government decides such matters as whether a firm will be allowed to enter the business, what routes it may serve, and what rates it may



carrier may be a trucker with a single vehicle, which he himself drives, or an economic giant in size and importance—a railroad, a trucking firm, or other large organization. Or, it may be something between these two extremes. Sometimes the owner of the cargo is also the owner of the vehicle or vessel in which it is shipped. He is then referred to as a “private” carrier.

Farm products are carried mostly in railroad cars and motortrucks but, for some purposes, ships, barges, and airplanes are used. Each mode of transportation has characteristics peculiar to it which give it an inherent advantage over the others in certain situations.

For the greater part of freight

charge. Such control applies to all of railroading and air transport and to a great deal of transportation on the highways and waterways. The Federal agencies which exercise such control are the Civil Aeronautics Board, for airlines; the Federal Maritime Board, for certain steamship services; and the Interstate Commerce Commission, for other carriers. Nearly every State government has a public utilities commission, which exercises control over transportation firms. The trucking and water transportation of a large share of farm products is exempt from such control by the Federal and State governments.

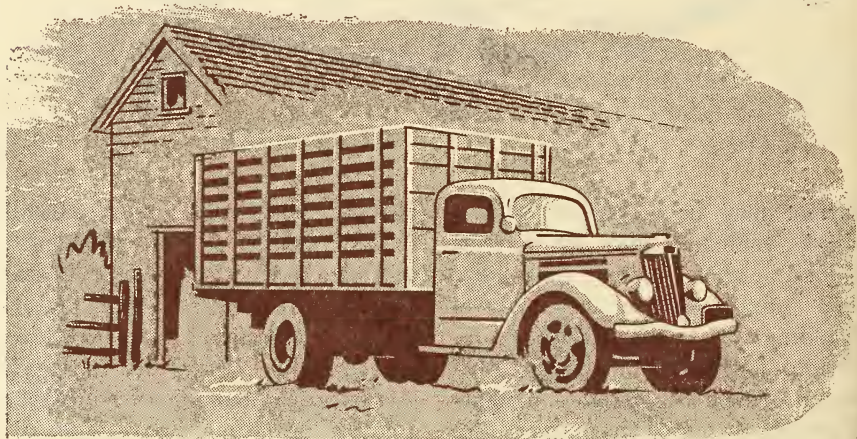
In the control over transportation, the Federal Government is

concerned mainly with transportation from one State to another, or between the United States and foreign countries. Each State is concerned mainly with hauling from one place to another within its own borders.

The general pattern of transportation of farm products is in three steps: First, from the farm to the local market, which serves as an assembly point for the produce of the area; second, the haul from this local market to the market in the consuming area; and third, the local delivery to the retailer. The first and last phases of this movement

are almost always performed by trucks. The longest movement, the haul from the local assembly point to the terminal market, may be by rail or truck or water or even air. Thus we find rail and motor carriers supplementing each other in the transportation process in some situations, and competing with each other for the same traffic in others.

Of course, many products are grown a short distance from the consuming market, and only a single step is involved in hauling them from farm to market. This type of haul is usually done by trucks.



Hauling Is Not Enough

The carriers do more than simply move a commodity from one place to another. Depending on its nature, the commodity shipped may require any of a number of services

which are offered along with hauling. For most of these services, an additional charge is made. For others, the basic transportation rate is the only charge.



Heated, Cooled, Ventilated

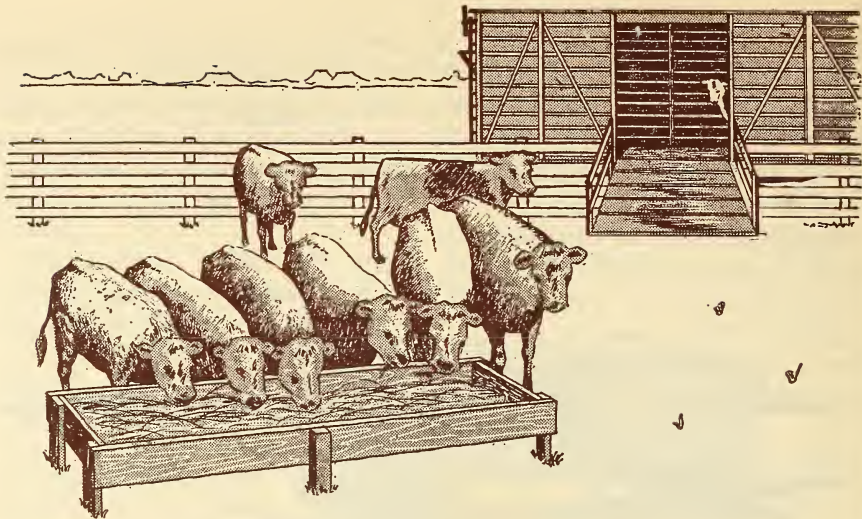
Some fruits and vegetables require precooling before they are shipped. Others require heating, ventilating, or refrigeration while in transit. The type and amount of protection required depend on the season of the year and the territory through which the shipment must pass. Frozen foods are refrigerated to a temperature as low as zero while being shipped or stored.

Both railroads and trucklines furnish these services in special refrigerator cars and trucks, which are equipped for icing or have mechanical refrigerating units. Ventilating is generally done without extra charge. Railroads and some trucking firms make an additional charge for heating, precooling, and refrigeration; other truckers include them in the transportation rate.

Livestock on the Move

Railroads transporting livestock over long distances must provide for stopping along the way at designated intervals to rest, feed, and water the stock. The shipper is also permitted to stop his livestock on the way to the stockyards to fatten them for slaughter without forfeiting the right to ship at the through rate. Railroads usually charge for these arrangements.

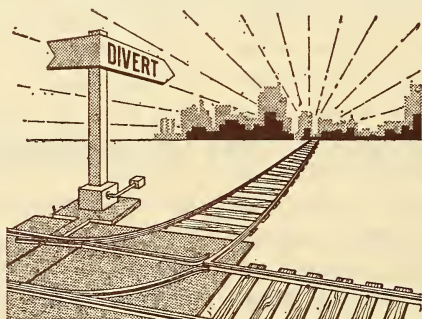
The railroads also give the livestock shippers, at no additional charge, the opportunity of stopping the shipment to "try the market" and then, if the price is not satisfactory, moving the load to the next market at a continuation of the through rate to its ultimate destination. This gives the shipper a chance to sell his livestock at the market where the price is most favorable.



The Shipper Changes His Mind

Railroads and, to a lesser extent, trucking firms provide for reconsignment of shipments in transit. This gives the shipper an opportunity to start his product on its way before he decides definitely at which market it is to be sold. This is of particular advantage to shippers of fruits and vegetables at a long distance from market. Having started the shipment on its way promptly, before it has time to

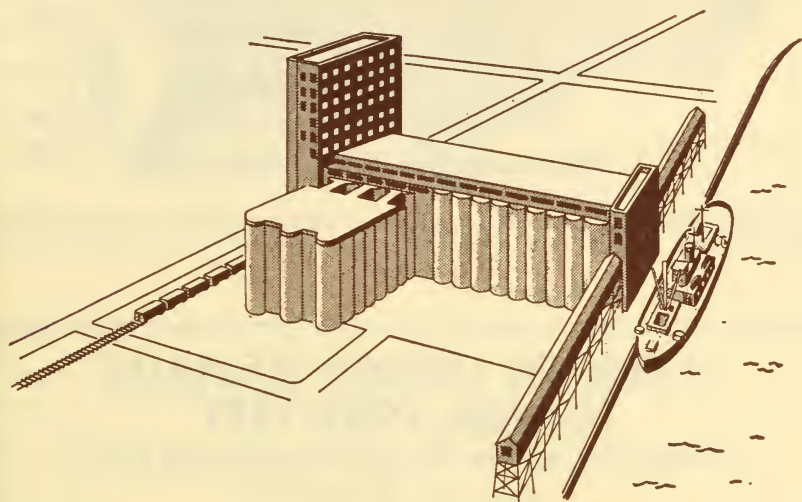
spoil, the shipper can divert it to the most favorable market as it gets near the various places where it might be sold. If the shipment has already reached the place which the shipper specified, it may be reconsigned (sent on) to some other point without being unloaded. In either case, the shipper pays the through rate. But, whether he must pay an additional charge for diversion or reconsignment depends on the section of the country and the number of times the privilege is used.



The Transit Privilege

Grain shippers using rail facilities can make use of the privilege of storing, cleaning, mixing, blending, and milling the grain at various points on the way to the final market and still pay the through rate from origin to destination. This is called the "transit privilege." In some parts of the country, a separate "transit charge" is made for this. Elsewhere, the arrangement is cov-

ered by the basic transportation rate. When the shipper takes full advantage of the transit privilege, the grain may be in transit for a year or more and may be stopped as many as three times for storage or processing. The product starts out as grain and may end the journey as flour, livestock feed, or some other grain product. The transit privilege applies to some other commodities as well.



The Trip Is Getting Longer

There was a time, not too long ago, when the housewife's purchases of fresh produce at the grocer's were limited to fruits and vegetables "in season." The distance from the growing area to market and the chance of spoilage on the way placed strict limits on the types of fresh fruits and vegetables shipped to markets in different parts of the country at different seasons of the year.

With the increasing speed of truck and rail transportation and the improvement in refrigeration techniques, fresh produce is available almost the year round. When the growing season in one producing area ends, the market draws on another area—perhaps farther away or perhaps nearer.

For some commodities, the hauls are still growing longer. This can best be illustrated by the changes in

CHICAGO'S SOURCES OF FRUITS AND VEGETABLES IN 1955



AVERAGE LENGTH OF HAUL TO NEW YORK CITY

Selected Fruits and Vegetables, 1955 Compared With 1941

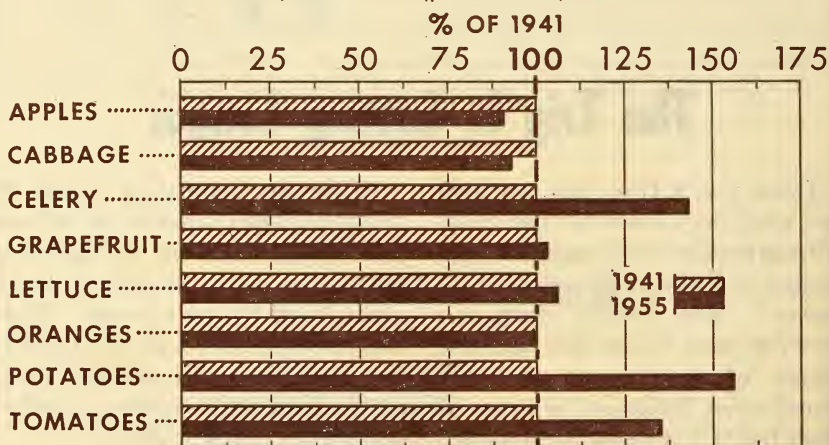
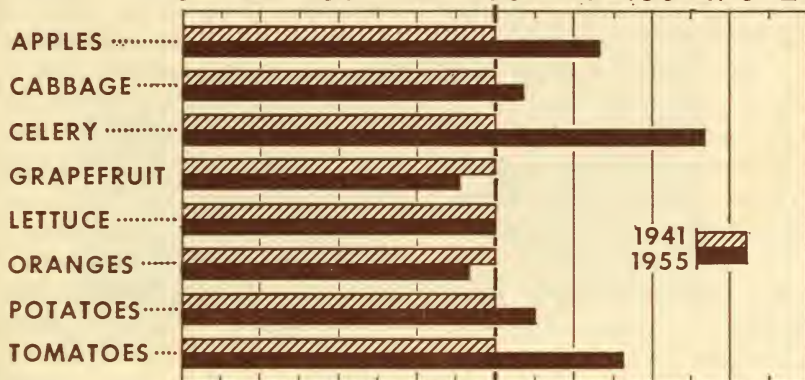


Figure 1.

AVERAGE LENGTH OF HAUL TO CHICAGO

Selected Fresh Fruits and Vegetables, 1955 Compared With 1941

% OF 1941
0 25 50 75 100 125 150 175 200



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Figure 2.

AVERAGE LENGTH OF HAUL TO LOS ANGELES

Selected Fresh Fruits and Vegetables, 1955 Compared With 1941

% OF 1941
0 50 100 150 200 250 300



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Figure 3.

the average length of haul of various fresh fruits and vegetables to the major consuming centers. An impressive example is the change in the average haul of celery by rail and truck to New York City. In 1941 the average distance from all the growing areas this market tapped during the year was 1,123 miles. By 1955 this average haul was up to 1,604 miles, an increase of 43 percent. Similarly, potatoes had come from an average distance of 550 miles in 1941 but in 1955 were brought an average of 856 miles to New York City, an increase of 56 percent. The same sort of thing happened to tomatoes. They were being brought distances that were, on the average, 35 percent greater in 1955 than in 1941. (See fig. 1.)

This story repeated itself at other markets for various fruits and vegetables in common use. Whereas the average distance that celery moved to the Chicago market was 836 miles in 1941, by 1955 that haul had increased 67 percent to 1,400 miles. Tomatoes, which had been hauled an average of 819 miles to Chicago in 1941, were shipped an average of 1,153 miles to that destination in 1955. The average distance that apples were hauled to market at Chicago increased by a third in the same period. (See fig. 2.)

The story is not the same for all

fruits and vegetables everywhere in the land. There are some distances to market which have scarcely changed in recent years. But striking examples of an increase in length of haul can be multiplied many times at markets throughout the country. The Los Angeles metropolitan area has experienced a phenomenal growth in population—89 percent between the time of the 1940 census and mid-1955. Although it is close to the growing areas of California and therefore is still able to get most of its produce without a long haul, it has had to reach out farther to feed its population. Figure 3 shows that, for some of the fruits and vegetables studied, Los Angeles tapped sources at greater distances than it had in 1941, while for others, it reached out the same distance as in 1941.

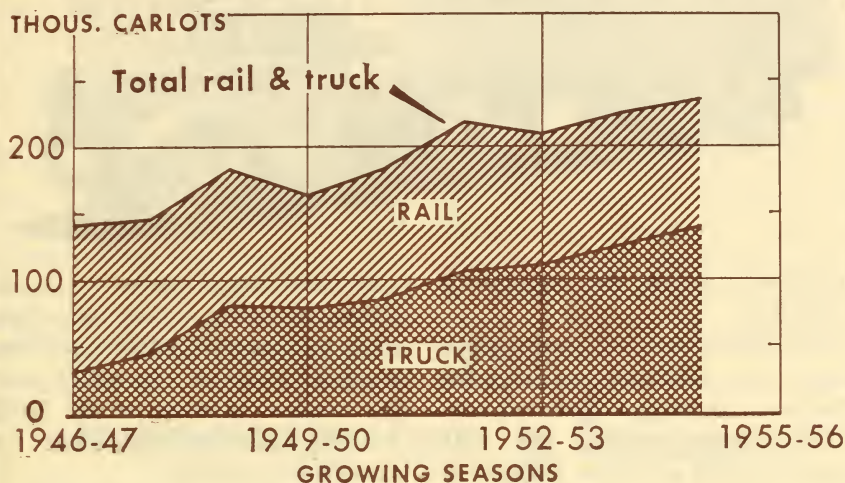
Los Angeles is by no means alone in this regard. It serves here simply as an example of the rapidly growing cities of the Far West and the Southwest as compared with New York, Chicago, and other cities which have had no tremendous changes in population in the past 2 decades. The striking thing is that both types of city show a marked increase in the distance that they must reach out for some fruits and vegetables.

More and More Food Moves by Truck

In recent years the share of farm food products hauled by truck has increased significantly. The experience of the large fruit-and-vegetable-producing States points up

this trend. Between the growing season 1946-47 and the season 1954-55, the total shipments of produce by rail from Florida to other States remained relatively stable.

FRUITS AND VEGETABLES SHIPPED FROM FLORIDA BY RAIL AND TRUCK



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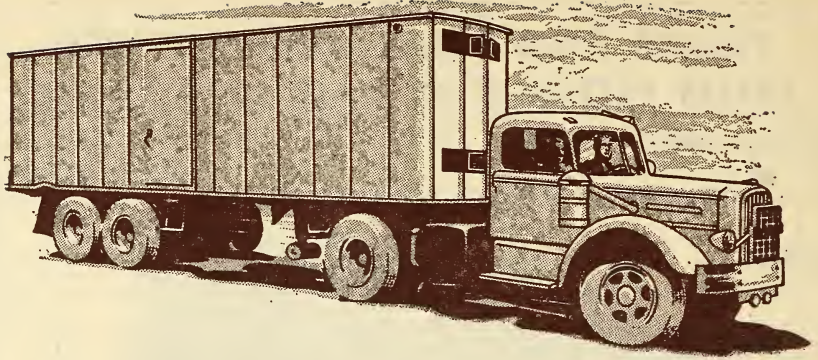
Figure 4.

At the same time, the amount of Florida fruits and vegetables moving to other States by truck more than quadrupled. The truck share of the fruits and vegetables moving out of Florida by land rose from about 22 to 59 percent. (See fig. 4.)

Most shipments of fruits and vegetables out of California must travel cross-country to market. This produce is still carried chiefly by rail. But here, too, we find an increase in the truck share of total shipments. In the short period from 1951 to 1954, while total shipments went up 5 percent, the truck portion rose from 12 to 17 percent of that total, an increase of two-fifths.

Before World War II, trucks were already hauling a large proportion of the traffic moving short distances. They have now become

important in long-distance hauling. Improvements in highways and equipment have made it possible for truckers to offer rates that are competitive with rail rates. Other factors promoting truck transportation are that faster over-the-road service is offered and that less handling is involved. The latter frequently means door-to-door service, with loading and unloading being done only once. With rail movement, the food may be put into a local truck for a haul to the railroad track and shifted there into a rail car. Or, at the far end of the rail journey, there may be a local truck trip, with a rail-to-truck transfer and an unloading of the truck. Or a local truck haul may be needed at both ends of the rail trip. These



transfers increase the amount of handling.

The trucks' reduced handling and faster movement both cut down the danger of spoilage. Reduced handling means economy as well. Greater speed gives the shipper an opportunity to take advantage of a favorable market.

Oranges, which are brought to New York City from Florida and California, distances ranging from 1,200 to nearly 3,000 miles, serve as a good example of the entry of trucks into the long-haul field. In 1941, practically all oranges arrived in New York by rail. In 1955, 19 percent of the total received were trucked to market. These truck shipments even included a small number from California.

In the brief period from 1951 to 1954 the percentage of Florida tomato shipments arriving in New York by truck rose from 37 to 70 percent. New York City draws about half its cabbage supply from nearby growing areas in New York State and New Jersey and the rest from much farther away. In the years from 1941 to 1955 the proportion of cabbage brought in by truck rose from 56 to 79 percent.

Because Los Angeles is close to producing areas, it has for a long while had most of its fresh produce trucked to market. In recent years the trucked portion of all fruits and vegetables received there has exceeded 90 percent.

Even Chicago, the rail center of the country, is receiving more and more of its agricultural products by truck. Although the proportion of fruits and vegetables arriving by truck is still relatively low, it has nearly doubled since 1939—going from 15 percent in that year to 28 percent in 1955.

Most of the dairy products, live-stock, and poultry and eggs are now being trucked to this market. In 1955, only 11 percent of the dairy products were still coming in by rail. From the latter part of the nineteenth century down to the past decade, the picture of Chicago in the American mind included vast numbers of animals arriving at the stockyards by rail. Many people still have this impression. However, in recent years that picture has ceased to square with the dominant facts. In 1939, 37 percent of the livestock arriving in Chicago

moved in trucks. By 1955, that percentage rose to 90. Practically all (98 percent) of the poultry and eggs arrived by truck in the latter year. These commodities generally come from areas much closer to the Chicago market than the fresh fruits and vegetables do.

One thing that the railroads and the trucks do in trying to get business is to compete with each other in offering better service. We have already noted that the trucks have made a strong appeal to food shippers by giving fast movement and door-to-door service. Some of

the railroads have countered by speeding up the movement of refrigerator cars. Also, to a limited extent, the railroads have begun to haul fresh and frozen foods by means of piggyback service—the carrying of loaded truck trailers on flatcars. An ordinary truck-tractor can quickly move a trailer onto or off a flatcar. Indeed, the “roll on, roll off” scheme of piggyback is the fastest way to load and unload a rail car, and it reduces the number of handlings due to transfer from truck to rail car and again from car to truck.

Transportation Costs to Consumers

The total bill for farm-grown foods produced in this country and sold, within its own borders, at retail amounted to an estimated \$46.3 billion in 1955. This includes restaurant food at retail store prices rather than at the prices charged for the prepared food on the menu. Of this sum, \$18.3 billion went to the farmer and the remaining \$28 billion was absorbed in the marketing process.

“Marketing,” as used here, embraces every service which is performed from the time the product leaves the farm until the housewife buys and pays for it at the local store. It includes all kinds of processing, from the sorting, grading, and packing of fresh fruits and vegetables, the slaughtering of livestock, and the dressing of poultry to the baking of bread and cakes and the preparation of precooked frozen dinners. It also includes the transportation and warehousing of these

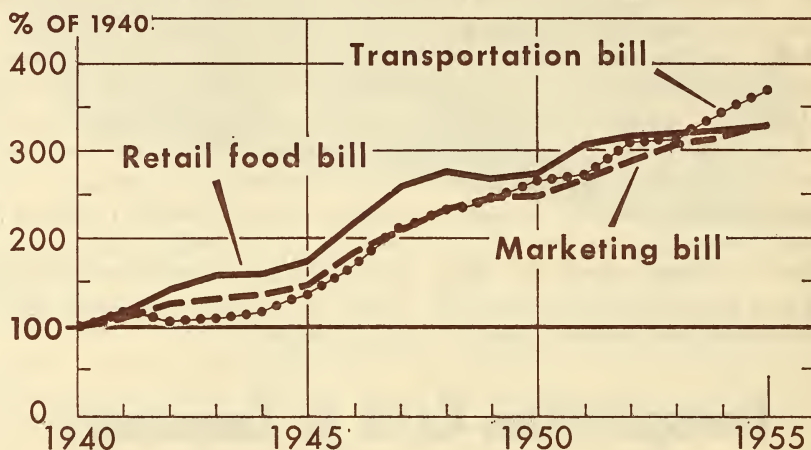
foods in every form and their wholesaling and retailing.

The charge for transportation forms a substantial portion of the total spent for marketing. In 1955, the transportation bill for food was estimated at \$3.70 billion, including an allowance for the 3 percent transportation tax. This figure comprised 13 percent of the marketing portion of the food bill. However, since not all of the transportation charges lend themselves readily to measurement, the estimated transportation bill is, of necessity, an understatement. It excludes charges for movements by water and air, and further excludes the charges for all local truck deliveries, such as those from the rail spur to the wholesaler and from the wholesaler to the retailer.

Figure 5 shows that the retail food, marketing, and transportation bills have increased at different rates since 1940 and that by 1955

Compared with 1940

RETAIL FOOD, MARKETING, AND TRANSPORTATION BILLS



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Figure 5.

the transportation bill had increased by a bigger percentage than the other two bills. It stood at 370 percent of the 1940 point, while the total retail food bill had gone up to 328 percent and the marketing bill had reached 329 percent.

If we look merely at the years

since the end of World War II, the increase in the transportation bill for food is even more striking. Between 1945 and 1955, the bill rose from \$1.34 billion to \$3.70 billion, two and three-quarters times as much. In this same period, total food costs increased only 90 percent.

Why the Transportation Bill Has Gone Up

What accounts for this rise in the transportation bill?

1. More food is being shipped to market to feed our growing population. This increased volume would have raised total shipping charges even if there had been no increase in transportation rates.
2. Many fresh fruits and vegetables are being hauled longer distances. This development, too, would have increased hauling costs even if transportation rates had stayed where they were.
3. The railroads have been granted a number of general rate increases in the last 10 years. The most recent one took effect in March of 1956. Many agricultural commodities are hauled by truckers whose rates are not controlled by the Government. These truckers do not have to tell the Government what their rates are. It is not possible to determine to what extent these rates have gone up, but it is known that they have increased.

All three of the factors discussed on the previous page help to explain why the total transportation bill has risen. Both longer hauls and the increase in rates help to show why, in the years since World War II, the transportation bill has risen so much faster than the food bill.

Let us look at this same increase in terms of the food dollar.

8 Cents of Every Food Dollar Goes for Transportation

In 1945, transportation cost us less than 6 cents of every dollar spent for food at retail and less than 11 cents of every dollar spent for marketing. By 1950, these shares

had increased to nearly 7 cents per food dollar and nearly 13 cents per marketing dollar. In 1955, the transportation bill stood at 8 cents per food dollar, half again as much as the 1945 figure, and over 13 cents per marketing dollar, an increase of one-fourth above 1945. Marketing is costing us an ever larger part of the food dollar, but the transportation share of this dollar has been growing even faster than the share taken by the other marketing services. (See fig. 6.)

Behind these averages, there is a great deal of diversity. The proportion of the food dollar going into transportation varies from one kind of food to another and from place to place.

CHANGES IN LAST DECADE

TRANSPORTATION PORTION

Of The Retail Food Dollar



5.5¢



6.9¢



8.0¢

Of The Marketing Dollar



10.7¢



12.7¢



13.2¢

1945

1950

1955

Figure 6.

The Hauler's Share Goes Up With Distance

When a commodity is sold at retail in a city closer to the source of supply, the proportion of the price which is made up of transportation is generally lower than for the same commodity sold at a longer distance from the supply point. For example, lettuce brought from California and Arizona points into Chicago in June 1955 included a transportation charge of $23\frac{1}{3}$ cents per retail dollar. The same lettuce carried all the way to New York City included a charge of over 33 cents for transportation.

Exceptions are made by transportation firms to take care of specific competitive situations. When a commodity is brought into a single market from two or more sources, an effort is often made to cut down the difference between the rates charged for transportation from these several sources of supply.

A case in point is that of Florida and California tomatoes shipped to Boston, Mass. The distance from California shipping points is more than twice as great as the distance from the Florida sources, but the rate is only about half again as much. In June of 1955, the shipping charges for Florida tomatoes were 10.7 percent of the Boston retail price and 15.4 percent of the price being charged in Boston for California tomatoes.

The rate concession on the longer hauls works to the advantage of various groups. The railroad or other transportation firm serving

the remoter source holds down the rate in order to get freight which it might otherwise not get at all. At the same time, the rate concession broadens the marketing area for the supplier located at the remoter source and makes an abundant, varied supply of the commodity available to the housewife.

On Processed Foods, the Hauler Gets a Smaller Share

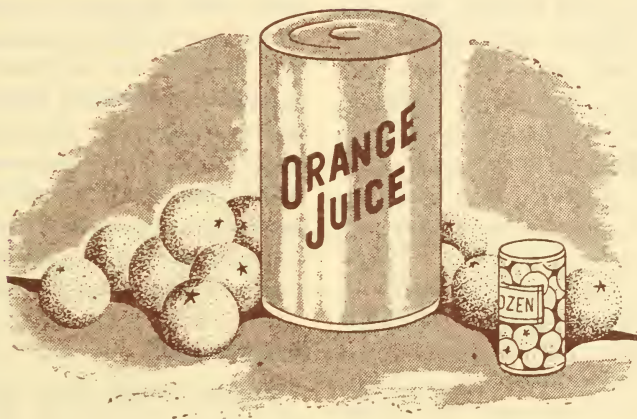
The amount of processing which goes into converting a product from its original form to the final salable commodity also influences the share of the price spent on transportation. As more processing is introduced between the foodstuff which leaves the farm and the final product sold in the retail store, less and less of the retail dollar is absorbed by transportation. This does not mean that the actual transportation rates go down. In fact, rates for moving processed foods are usually higher than for the same products as they come from the farm. What we have here is two kinds of increased charges resulting from added processing: The increase in the charges for the processing itself and the increase in the charges for transportation. Added processing causes a bigger percentage rise in the processing bill than it does in the transportation bill.

Because the housewife is buying service along with food—the service of preparing it—she may be spending more dollars for what she buys to feed her family. But the net effect is to reduce the transportation portion of each dollar she does spend on food.

It is next to impossible to trace the transportation charges that enter into the retail price of most processed foods. However, oranges are sold at retail in their original form; their juice is canned and marketed at single strength; and frozen orange juice concentrate is the newest product added to this group. Each of these represents a further step of processing beyond the previous form. Let us, therefore, trace the proportions between retail price and transportation charges for Florida oranges and juices shipped to New York City

to see the changing relationship of transportation to price as the amount of processing increases.

In November 1955, 16.2 cents per retail dollar paid for fresh Florida oranges in New York City comprised transportation charges. At the same time, 12.3 percent of the price of canned single strength orange juice coming from the same area was absorbed in transportation while only 5.1 cents per dollar spent on frozen orange juice concentrate was accounted for by shipping charges.



The Price Goes Down; the Hauler's Share Rises

All the situations we have described up to now in accounting for differences in relationship between transportation charges and price have dealt with different rates in effect at the same time. This transportation-price ratio can also be affected by changes in retail price over a period of time in a specific

market while the transportation charges remain constant.

For example, the meat products from a hog raised on a farm near Waterloo, Iowa, and slaughtered at Waterloo were shipped to New York City and sold there over the counter in March of 1955. Transportation absorbed 5.1 cents of each dollar of retail value of the pork derived from this animal. Just 1 year earlier, an animal of the same

weight and grade, going through exactly the same marketing channels and with the same shipping rates in effect, would have had a transportation charge of 3.8 cents per retail dollar. This increase in proportion from March 1954 to March 1955 was due entirely to the slump in the retail price between those dates.

A similar set of circumstances may be traced for a hog raised on an Illinois farm, slaughtered in Chicago, and marketed in Washington, D. C. In April 1954, 3.3 percent of the market price went into transportation. In April 1955, again with no change in transportation charges, the ratio rose to 4.4 cents per retail dollar.

The Share Charged for Supplemental Services

We mentioned earlier that, although hauling is the major function of transportation, there are other services, essential to the hauling process, which are bound up with it. When these supplemental services are provided by a railroad, truckline, or other carrier, they are called accessorial services. What relation do the charges for some of these services bear to the total transportation charge for a commodity?

There is no simple, sweeping answer to this question. As noted earlier, some of the services and privileges, such as ventilating and stopping to test the market, are rendered without any charge which is shown separately from the rate for hauling. In such cases it may be assumed that a charge for the service is included in the rate paid to the carrier. In other cases, including the privilege of reconsignment and the service of feeding livestock in transit, a separate charge is made.

So, if we want to see the relative

size of the charge for a supplemental service and the total transportation charge, we will have to look at services for which the former is stated separately. To make this comparison, let us take as examples two of the services most often required in connection with food transportation and see, for a few kinds of food, what this ratio is.

Refrigeration

Frozen orange juice concentrate shipped by rail from the processing plant to the warehouse of the wholesaler or of the large retail grocery chain requires mechanical refrigeration all the way if the temperature is to be kept near zero, the present standard used by shippers of this product. Refrigeration with ice and salt will not do the job.

For fully loaded cars of frozen orange juice concentrate shipped from Lake Wales, Fla., to eight large cities within an area ranging as far north as Boston and as far west as Chicago, the ratio of re-

refrigeration charges to hauling charges was computed. Rail refrigeration rates are stated on the basis of a carload. It was found that refrigeration charges to each of the cities were about 10 percent of the total transportation charges. This constant relationship can be explained by the fact that rates for hauling and charges for mechanical refrigeration are both related to distance. Hence a constant relationship is what we generally would expect, instead of a refrigeration charge that goes up faster, with increasing distance, than the hauling charge does or vice versa.

Fresh fruits and vegetables brought into large cities by rail usually require refrigeration while in transit and also delivery from the railroad spur to the wholesaler's establishment by local truckers. A study was made of rail shipments of 8 different fruits and vegetables from Florida areas to 18 large cities throughout the country in 1952.

These fruits and vegetables are mostly shipped under standard refrigeration, with ice. This involves icing at the starting point and, for long hauls, re-icing at intervals. For this type of refrigeration the rates are generally established on what might be called a step basis, depending on the number of icings required for the journey. Since the charge for hauling goes up gradually with distance and the refrigeration charge goes up in steps, the ratio of refrigeration charges to total charges varies considerably.

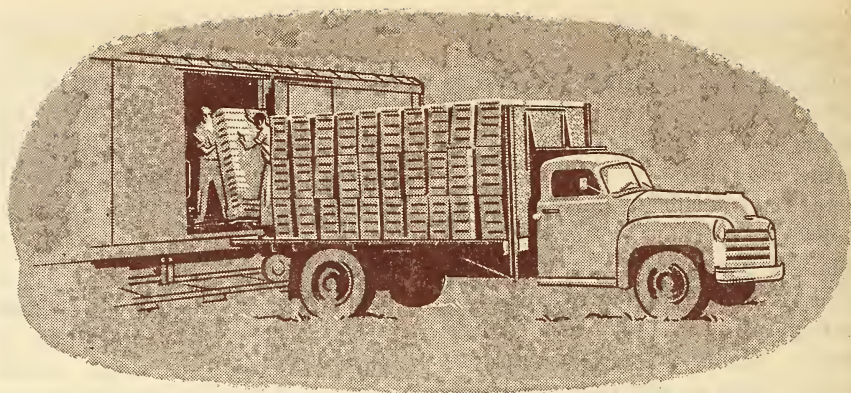
For example, the refrigeration charges for snap beans to the various cities ranged from 13.8 to 20.4

percent of the sum of hauling plus refrigeration charges. For cabbage, the proportion ranged from 7.1 to 11.9 percent. The ratios on green corn varied from 20.9 to 26.4 percent. For oranges, they varied from 7.1 to 14.5 percent.

Cartage

The delivery service from the railroad spur to the wholesaler is called "cartage"—a word which carries over from the day of teams and wagons, although today's cartage is usually by motortruck. The trucks are generally operated by a local firm, not by the railroad. In the study, already mentioned, of the transportation of fresh fruits and vegetables from Florida, it was found that, in 17 of the cities covered, the warehouses were within a mile of the railroad spurs. The 18th city, Denver, had warehouses located at the rail spur, requiring no cartage at all.

The charges for cartage are based on the cost of loading the truck at the rail spur and unloading it at the market, and the time spent in getting from spur to market. Since the distance from the rail spur to the market is negligible, it does not affect the charges much unless the streets used are congested. Traffic delays and waiting time at poorly organized markets increase the charges. Cartage rates vary from city to city, depending on the level of wage rates in the area and the market facilities in the particular city. In New York City, for example, the facilities are exceptionally poor. Rail



cars are delivered on tracks in Manhattan some distance from the market, or are moved across the Hudson River on car floats (freight-car ferries) and unloaded at the piers, where the trucks pick up their loads. The trucks must combat the heavy traffic in the congested downtown area and must line up to wait their turn to unload at the market. Waiting time makes costs mount up to such an extent that cartage charges there are the highest in the country.

Cartage charges per hundred pounds within a city vary from commodity to commodity, depending on the size of the package, which affects the amount of handling involved in loading and unloading. The charges are per package, with only minor variations for size of package. For ex-

ample, in Boston the cartage charge for a 36-pound lug of tomatoes was 10 cents, the same as for a 100-pound box of oranges. This means that the cartage charge for 100 pounds of tomatoes (almost 3 lugs) is 28 cents compared with 10 cents for the 100 pounds of oranges (1 box).

In terms of the total charge for transportation and allied services from the packer to the wholesaler, the cartage charges were a smaller proportion as the distance from the source of supply increased and the rail rate increased with it. Thus the amount paid for cartage of Florida tomatoes ranged from 5.2 percent in Los Angeles to 13.5 in St. Louis. For oranges from Florida, the variation was from 4.1 percent in Portland, Oreg., and Seattle, Wash., to 15.6 percent in Atlanta, Ga.

Recent Trends in Transportation Charges

In the past 10 years the railroads have been granted general rate increases authorizing them to raise hauling charges nearly 89 percent over 1945 rates for all commodities considered together. The average increase in the actual level of rates on agricultural products has been about 71 percent. The most recent general increase, which became effective in March of 1956, allows an increase of 6 percent on most rail freight. At about the same time, the barge lines and various other boat lines operating within the United States were granted a similar increase.

While the increase permitted on most rail freight averaged 6 percent, the average increase allowed on agricultural commodities is estimated at less than 5 percent. This is the result of "hold-downs" placed

on the rate increases on certain agricultural commodities. Hold-downs limit the increase allowed for a particular commodity regardless of the distance it moves. For fruits and vegetables, the increase in March 1956 was limited to 6 cents per hundred pounds. This reduces the percentage increase for long hauls, especially on products moving at high rates. If the rate prior to the last increase was \$1 or less per hundred pounds, the full 6 percent increase is effective. However, if the rate for a movement was previously \$2 per hundred pounds, this 6 cents maximum limitation results in an increase of only 3 percent.

Thus, the average increase in rail rates on fresh fruits and vegetables, over the past decade, ran about 54 percent; on wheat, 76 percent. At the same time, the increase on live-

RAILROAD FREIGHT RATES FOR AGRICULTURAL PRODUCTS



stock and meats, for which there was no hold-down, was about 90 percent—slightly above the average for all commodities combined.

Over the same period, the railroads were authorized to increase their charges for refrigeration and protection against cold by 15 percent in 1947 and by another 15 percent in 1948. A further increase of 15 percent in refrigeration charges for shipments in cars not mechanically refrigerated became effective in April 1956; a similar increase for shipments in mechanically refrigerated cars went into effect in September 1956.

Truck rates tend to go up whenever rail rates increase. The rail increase of 1956 was followed by rises in interstate truck rates in various parts of the country. So far as concerns the truck rates that are subject to control by the Interstate Commerce Commission, these rises averaged about 6 percent. These rates apply to a wide variety of merchandise, both food and non-food. For example, they are charged for the trucking of canned

goods, prepared breakfast foods, and soap.

However, these increases in truck rates are granted piecemeal. Moreover, many truckers of livestock, fresh produce, and other agricultural commodities are free of Government control over their rates and are not required by law to publish them. Because of these two factors, a specific statement cannot be made about the amount of increase in truck rates on farm products over the years.

For much of transportation, the rail rates are a ceiling which the trucklines want to stay below, in order to get business. However, there also are situations where speed is so important that truck service is used even at higher rates than those for rail movement. In either case, when rail rates go up, the trucklines can raise their rates. Besides considering the rail rates, the trucklines also need to avoid charging so much that they tempt the shippers or receivers of commodities to buy and operate their own trucks.

THE FUTURE

The 1956 increases in transportation charges by the various kinds of carriers mean, at least for the present, that the transportation share of the marketing dollar is up, and that the transportation share of the food dollar is also higher.

However, it seems likely that there will be more and more processing and other related services as time goes on. If so, that trend may in time weigh even more heavily than the increases in transportation charges in 1956 and the decade before it.

This does not mean that added processing of food makes the food any cheaper. It means only that, when we look at what the transportation of our food costs us, we need to think also of the other marketing services and what they cost us. Above all, we need to bear in mind that the services and charges that we are examining make an ever-changing pattern. To appraise them, we have to think of a whole tangle of events at one time, and untangle them as best we can.

U. S. GOVERNMENT PRINTING OFFICE: 1956

